REMARKS

I.   **Status of Claims:**

     1.   Claim 1, 21 and 40 have been rejected under 35 USC 112, second paragraph for failing to particularly point out and distinctly the subject matter which applicant regards as the invention.

     2.   Claims 58, 59, 60, 61 and 63 have been rejected under 35 USC 102 (b) as being anticipated by USP 6,141,785 to C. H. Hur, issued October 31,2000, filed September 2, 1998, of record (Hereafter, HUR).

     3.   Claims 1-9, 10-29, 3-48 and 50-57 have rejected under 35 USC 103 as unpatentable over Hur in view of (1) a publication entitled "Design of a Multicast File Transfer Tool on top of ALC" by Vincent Roca and Benoit Mordelet, Proceedings of the Seventh International Symposium on Computers and Communications, ISCC'02 (Hereafter, Roca and Mordelet I); (2) in further view of USP 5,727,002 to C. K. Miller et al, issued March 10, 1998, filed January 16, 1996 (Hereafter, Miller), and (3) a publication entitled "Quantitative Prediction of NACK-Oriented Reliable Multicast (NORM) Feedback" by R. Brian Anderson and Joseph P. Macker, Information Technology Division, Naval Research Laboratory, (Hereafter, Adamson and Macker .

     4.   Claims 9-10, 29-30, 48-49 and 62 have been rejected under 35 USC 103 (a) as unpatentable over Miller in view of a publication entitled "Improving the Efficiency of a Multicast File Transfer Tool based on ALC" by Vincent Roca and Benoit Mordelet, INRIA, No 4411, March 2002, (Hereafter, Roca and Mordelet II) .

     5.   Claim 62 has been rejected under 35 USC 103(a) as unpatentable over Hur in view of Roca and Mordelet II.

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6.   Claim 64 has been rejected under 35 USC 103 (a) as unpatentable over Hur in view of Miller.

Applicant's attorney thanks Supervisory Examiner Kwang Yao and Examiner Juevena Loo for the courtesy of a personal Interview conducted May 14, 2008 on the subject application under Final Rejection. A draft response to the Final Rejection and a draft of amendments to the claims to overcome the cited art were submitted in advance as an Agenda for the Interview. At the Interview independent claim 1 was discussed with respect the references Miller 5,727,002 and Hur 6,141,785. Applicant's attorney distinguished Miller and Hur from claim 1 as (1) failing to describe transmitting a data packet from a sending device to a receiving device at different rates and in different channels as described in applicant's specification at Paragraphs 0040-0041 (The cited art disclosed transmitting data at a set rate to a receiver and the receiver can change to different transmission at a different rate, if lost packets achieve a threshold.); (2) sending or receiving a retransmission request/response to/from the sender or another receiver as described in applicant's specification at Paragraph 0012 (the cited art only discloses retransmissions to the sender not to other receivers. However, the Examiners responded that only one of the retransmission is required to anticipate an alternative expression in a claim). The

The Examiners agreed that amending the claims to change channels to layers would overcome the cited art, subject to an update search. Applicant's attorney agreed, with the consent of the client to file a RCE with amended claims per the Interview.

Applicant responds to the indicated Paragraph of the subject Office Action, as follows:

I   **Claim Rejections – 35 USC § 112, Second Paragraph**

Paragraphs 1 and 2:

Claims 1, 21 and 40 are not vague and indefinite in view of applicant's description in Paragraphs 0040- 0041.

The cited Paragraphs at Page 12, lines 12-14 describe "Each data packet 19 is then transmitted via a network 20 to the receivers 5 using separate channels and at different data rates over a network 20", and at lines 17 -19 an" object 8 is fragmented into data packets and scheduled for delivery at different rates, as per the congestion control requirements of the high level services layer 13". The ALC Protocol Instantiation, RFC 3450, dated December 2002 at Paragraph 2.2 describes "using a multiple rate congestion control building block a sender sends packets in the session to several channels at potentially different rates."

A worker skilled in the art after a reading of applicants' specification and familiar with ALC and is well aware that a packet can be transmitted at different rates and in different channels.

Further, MPEP 2173.02 cites Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004) "The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles...Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite."

Applicant submits that the feature "transmitting a data packet from at least one sending device to at least one receiving device at different rates and in different channels" has a discernable meaning to a worker skilled in the art based on Applicants' Description and knowledge of ALC, and the feature is not insolubly ambiguous.

Withdrawal of the objection of Claims 1, 21 and 40 is requested.

II.   **Claim Rejections – 35 USC § 102**

        Paragraphs 3 and 4:

        Claims 58 – 61 and 63 include features not disclosed in Hur and overcome the rejection
under 35 USC 102 (b), as follows:

        1.   Claim 58

                (i)   a negative acknowledgement (NACK) and transmission mechanism for
sending an acknowledgement or transmission of missing and mangled data to said sending
device or to another receiving device:

                The Examiner contends that Hur at column 6, lines 54-57 discloses the claimed
subject matter. The cited text discloses that a NACK is transmitted through the IP-Multicast
group or host and other hosts notice the request and provide the transmission for the same
requests.

                The cited text does not disclose a receiver sends a NACK for missing or damaged
packets to a sending device or another receiver, as described in applicant's description at
Paragraph 0012 and elsewhere.

                (ii)   transmitting a retransmission of said missing or mangled data from said
sending device or said other receiving device to complete the data packet and a data transmission
session;

                The Examiner contends that Hur at column 3, lines 29-57 discloses the claimed
subject matter. The cited text at lines 55-57 discloses "where there is an error in the data packet
received from the source, the receiver shifts to the step of receiving the data and heartbeat from
the source, and in case where there is no more error to the data packet, the procedure is
terminated." Applicant can find no disclosure in the cited text of transmitting a re-transmission

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of said missing or mangled data from said sending device <u>or said other receiving device</u> to complete the data packet and a data transmission session;

Hur fails to provide disclosure supporting a rejection of claim 58 under 35 USC 102 for reasons (i) and (ii) indicated above. Withdrawal of the rejection and allowance of claim 58 are requested.

2.   Claims 59-61 and 63 depend from and further limit claim 58 and are patentable over the cited art on the same basis as claim 58. Withdrawal of the rejection and allowance of claims 59-61 and 63 are requested.

<u>Paragraphs 5 and 6</u>:

Claims 1-9, 10-29, 31 – 48 and 50-57 include features not disclosed or suggested in Hur in view of (1) Roca and Mordelet I and (2) Miller and overcome the rejection under 35 USC 103 (a) , as follows:

Before addressing the rejected claims, applicant would like to distinguish Miller from the claimed subject matter, as follows:

Miller discloses a method for transmitting data over a communication link to a multicast group by setting a maximum data transmission rate to a value less than or equal to an available bandwidth of the communications link; partitioning the data into a plurality of blocks which each includes a plurality of frames; transmitting all of the frames to one or more recipients in the group ; during transmission, receiving acknowledgments from the recipients which include indications of frames requiring retransmission; and repeating transmission for only those times which the acknowledgments indicate require retransmission. If the set transmission rate exceeds the speed range of a recipient, then frames are dropped in the block to the level of the recipient's speed range. Recipients that detect their frame drop rate exceeds a threshold may (1) leave the group and be placed into a lower speed group, (2) leave the group

without requesting further delivery, and 3) suppress NACKs until a Status Request Message is received from the server.

Miller fails to disclose or suggest transmitting to multicast groups in different channels and at different rates. Miller transmits to all recipients or clients in a single channel and at a set transmission rates. Recipients that can not handle the transmission because of a lower or higher speed receive the set transmission and require retransmission at the set speed until the transmission is complete. Applicant transmits to clients in different channels and at different rates using ALC, as described in applicant's description at Paragraphs 0040-0041.

Now turning to the rejected claims, applicant responds, as follows:

1.   Claim 1:

(i)   transmitting a data packet from at least one sending device to at least one receiving device at different rates and in different channels;

The Examiner contends that Miller at column 17, lines 45-55 and Figure 6 discloses the claimed feature. The cited text describes the source transmitting in a single channel at a single transmission rate, not different rates, to recipients that operate at different speeds. There is no changing the set speed of transmission and recipients accept lost packets for retransmission at the set speed as described in Miller at column 11, lines 15-62. Miller does not describe or suggest ALC published by Roca and Mordelet in 2001.

(ii)   determining at said receiving device missing or mangled data transmitted from said sending device using negative acknowledgement (NACK)-Oriented Reliable Multicast (NORM) protocols at the receiving device;

The Examiner contends that incorporating Adamson and Macker into Miller describes the claimed feature. Adamson and Macker describe timer-based feedback suppression to overcome NACK feedback implosion. Miller discloses receivers send NACKs as transmission occurs. After the server has sent an entire amount of data, the server performs a

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second round of transmission in which it only resends the particular packets requiring

retransmission. Incorporating Adamson and Macker with their timer based feedback suppression

would render Miller inoperative by the failure to send retransmissions.

      (iii)   sending an acknowledgement or transmission of missing or

mangled data from said receiving device to said sending device or to another receiving device;

      The Examiner contends that Miller at column 4, line 50 to column 5, line 2

discloses the claimed feature. The cited text discloses recipients sending NACKs to the server

only until the sender indicates DONE messages have been received from all recipients and then

the transmission process ends or the sender sends status requests to unresponsive clients.

Applicant can find no disclosure in the cited text or elsewhere in Miller where the recipient sends

NACKs to other recipients, as described in applicant's description at Paragraph 0012 and

elsewhere.

      (iv)   transmitting a retransmission of said missing or mangled data from

said sending device or said other receiving device to complete the data packet and a data

transmission session.

      The Examiner contends that Miller at column 4, line 50 continuing to

column 5, line 19 discloses the claimed feature. The cited text describes the server receiving

DONE messages from all recipients and then ending retransmission process or sending status

requests to unresponsive recipients. Applicant can find no disclosure Miller related to a receiver

receiving a retransmission from another receiver.

      The rejection of claim 1 is without support in Miller and Anderson and

Macker for the reasons indicated above in the consideration of the claimed features (i) – (iv).

      Withdrawal of the rejection under 35 USC 103 (a) and allowance of

claim 1 are requested.

3.   Claim 21

Claim 21 has been rejected on the same references cited against claim 1.
Claim 21 tracks claim 1 in program product format and is patentable over the cited references for
the same reasons indicated in the consideration of claim 1.

Withdrawal of the rejection under 35 USC 103 (a) and allowance of
claim 21 are requested.

4.   Claim 40:

Claim 40 has been rejected on the same references cited against claim 1.
Claim 40 tracks claim 1 in system format and is patentable over the cited references for the same
reasons indicated in the consideration of claim 1.

Withdrawal of the rejection under 35 USC 103 (a) and allowance of
claim 40 are requested.

5.   Claims 2-9 and 10 -20; 31 -39; 41-48 and depend directly or indirectly
from and further limit independent claims 1, 21 and 40, respectively and are patentable over the
cited art on the same basis as the independent claim from they depend.

Withdrawal of the rejection under 35 USC 103 (a) and allowance of
dependent claims 2-9 and 10 -20; 31 -39; 41-48 are requested.

Paragraph 7:

Claims 9-10, 29-30, 48-49 and 62 depend from and further limit independent
claims 1, 21, 40 and 58, respectively and are patentable over Miller in view of Roca and
Mordelet II on the same basis as the independent claim from which they respectively depend

Further, the combination of Miller and Roca and Mordelet II would be inoperative
by reason of Miller relying on a single channel using a set transmission and requiring NACK
transmissions over a separate return channel (Miller at column 8, lines 52-59). Roca and

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Mordelet II do not provide a return channel. Without such separate NACK channel in Roca and Mordelet II, Miller would be inoperative.

Paragraph 8:

Claim 62 depends from and further limits claim 58 and includes features not disclosed or suggested in Hur in view of Roca and Mordelet II.

Claim 58 includes the features of sending retransmission request to a sender or a receiver and receiving retransmissions from a sender or receiver. Roca and Mordelet II in Sections 4.1 through 4.3 describe Application Level Framing; How to Deal with Multiple Objects and What symbols to send to each layer. Applicant can find no disclosure in Roca and Mordelet II for sending and receiving retransmissions from another receiver. Roca and Mordelet II fail to supply the missing retransmission f feature in Hur. Claim 62 is patentable over the cited art on the sane basis as claim 58 from which it depends.   :

Paragraph 9,

Claim 64 depends from claim 58. Neither Hur nor Miller, the cited art, include the features of sending retransmission requests to a sender or a receiver or receiving retransmission from a sender or receiver for reasons discussed in the consideration of claim 58. Claim 64 is patentable over Hur and Miller on the same basis as claim 58.

Withdrawal of the rejection under 35 USC 103(a0 and allowance of claim 64 are

CONCLUSION

Based on the foregoing remarks, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-64; allowance of the claims and passage to issue of the application.
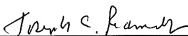
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AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 4208-4172.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No 13-4500, Order No. 4208-4172.

Respectfully submitted,

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